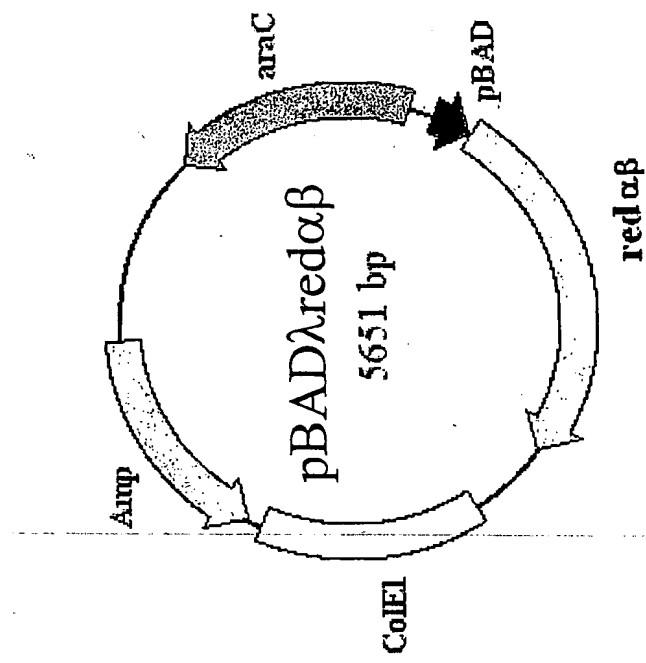
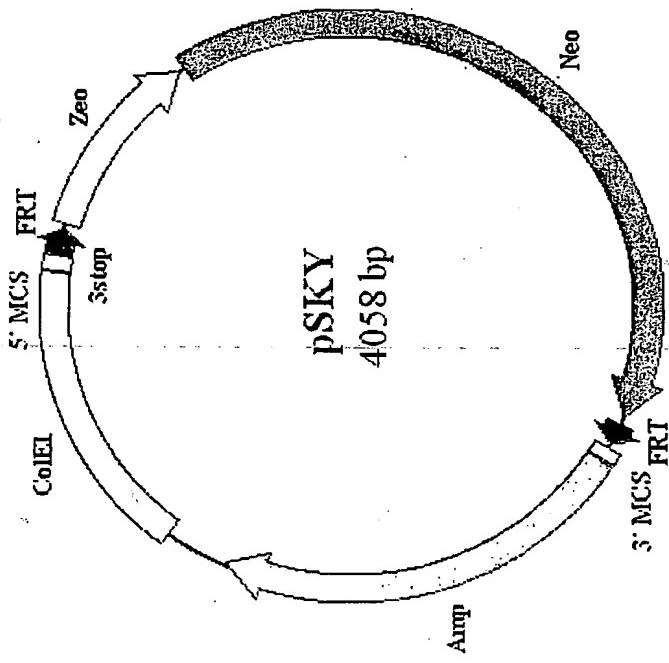


**Figure 1A**

C



B



Figures 1B and 1C

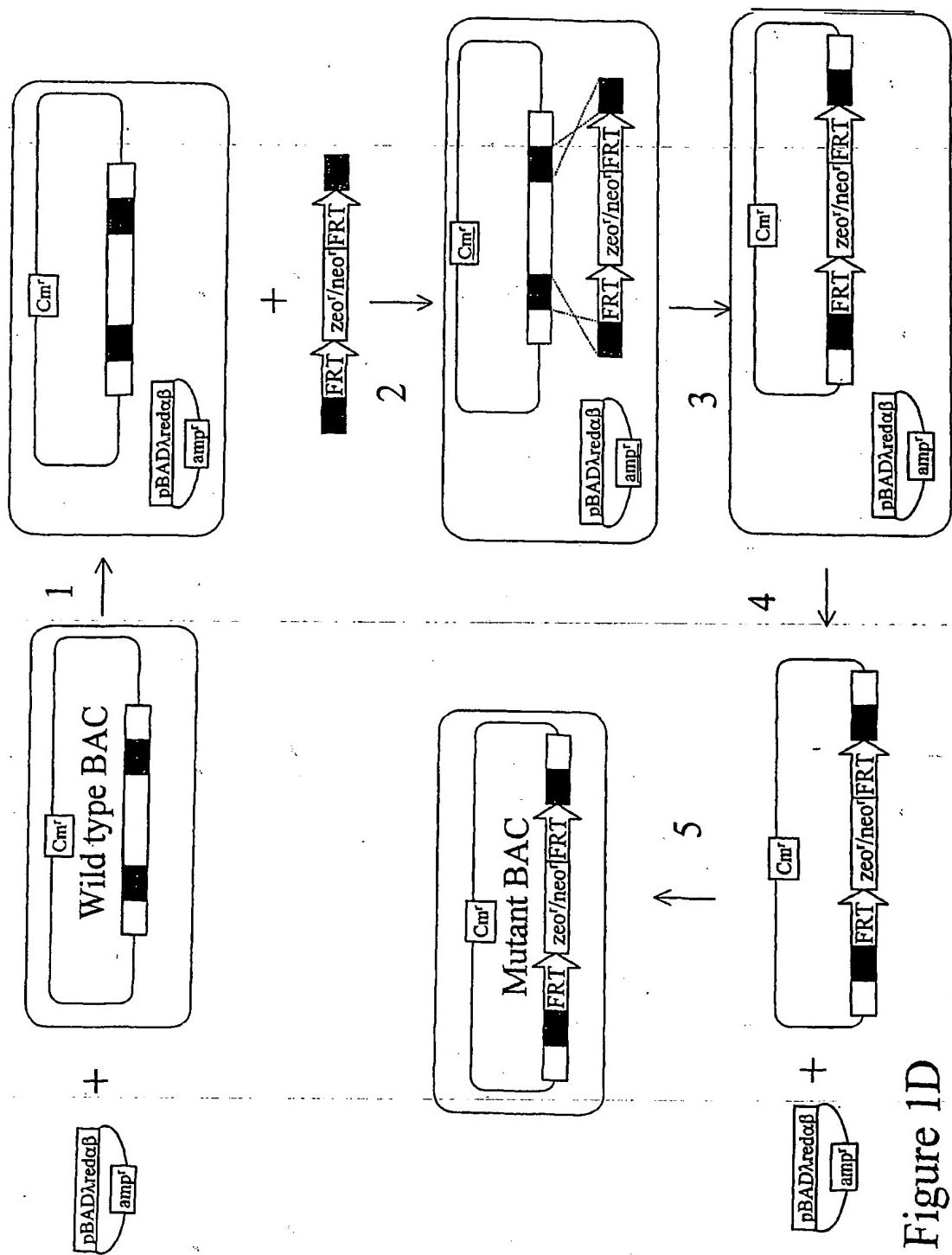


Figure 1D

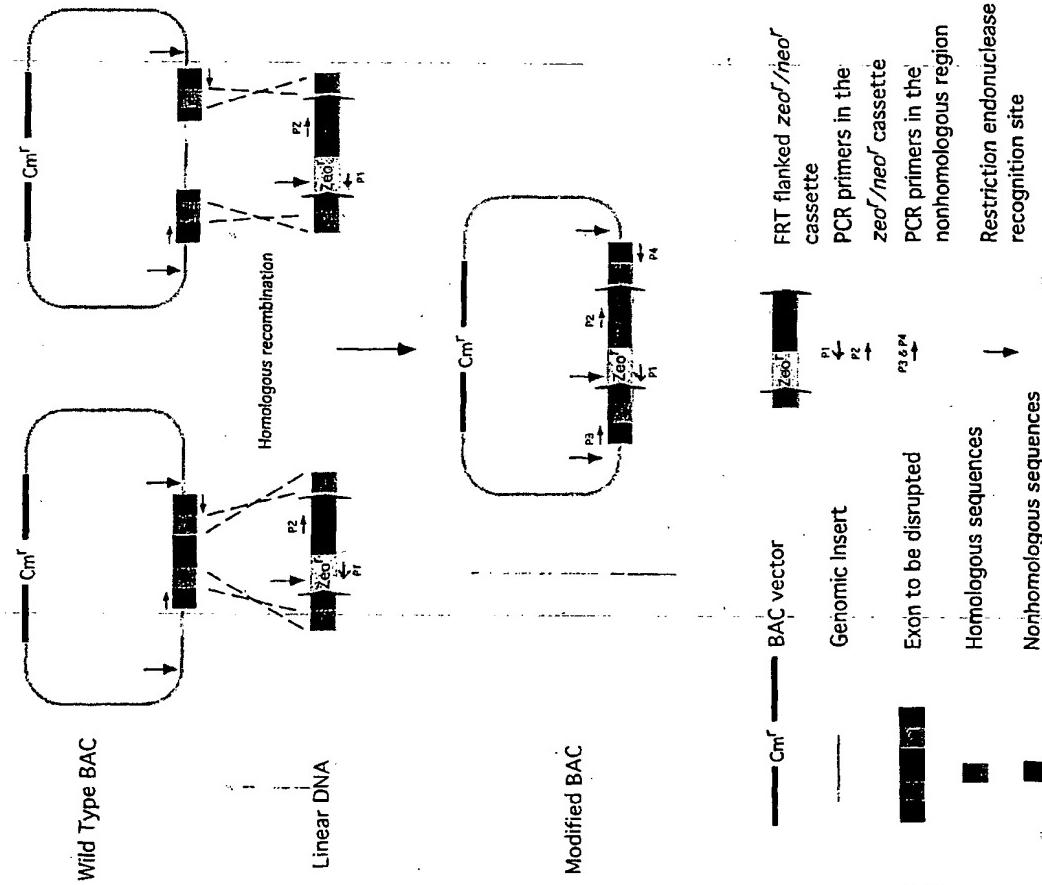
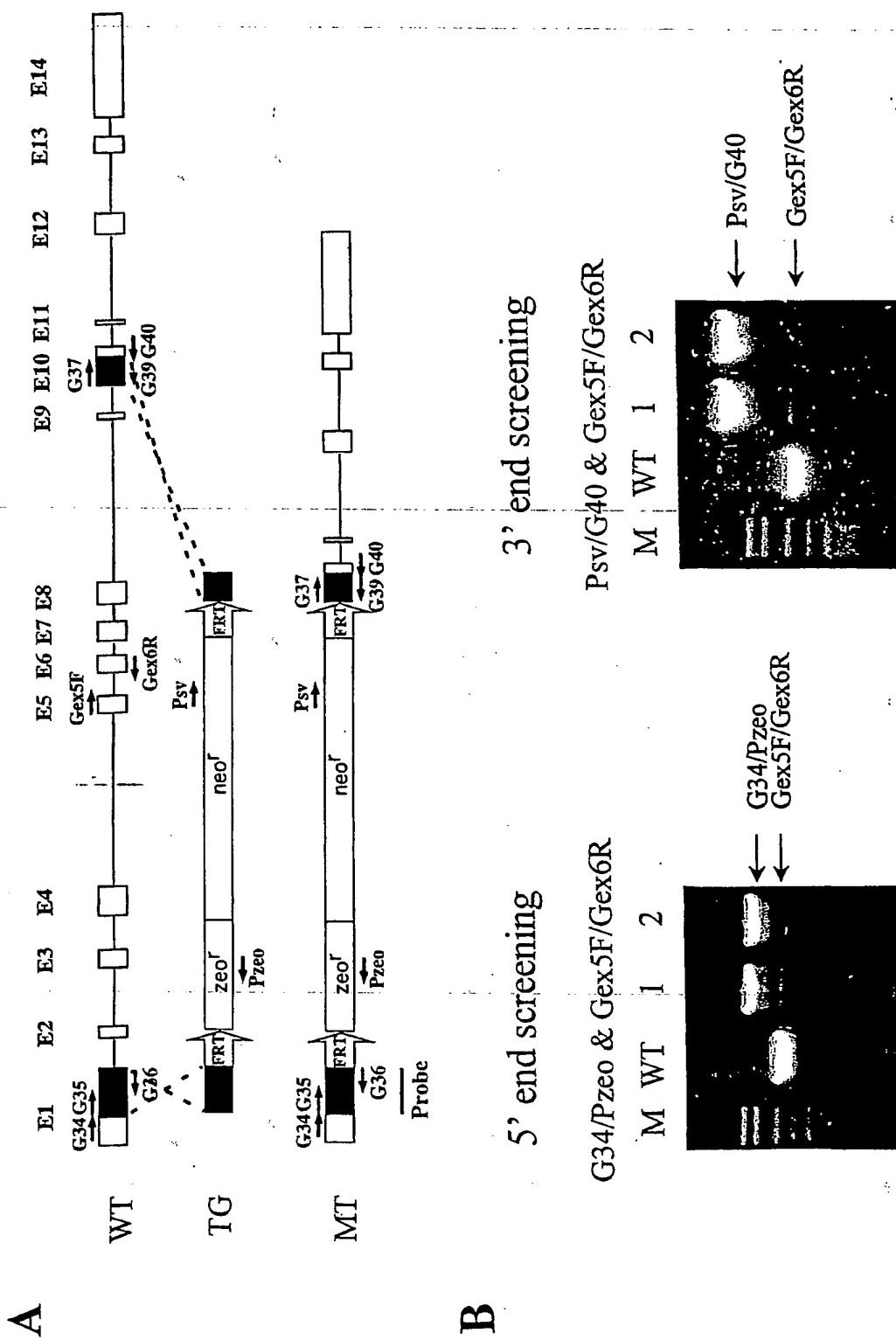
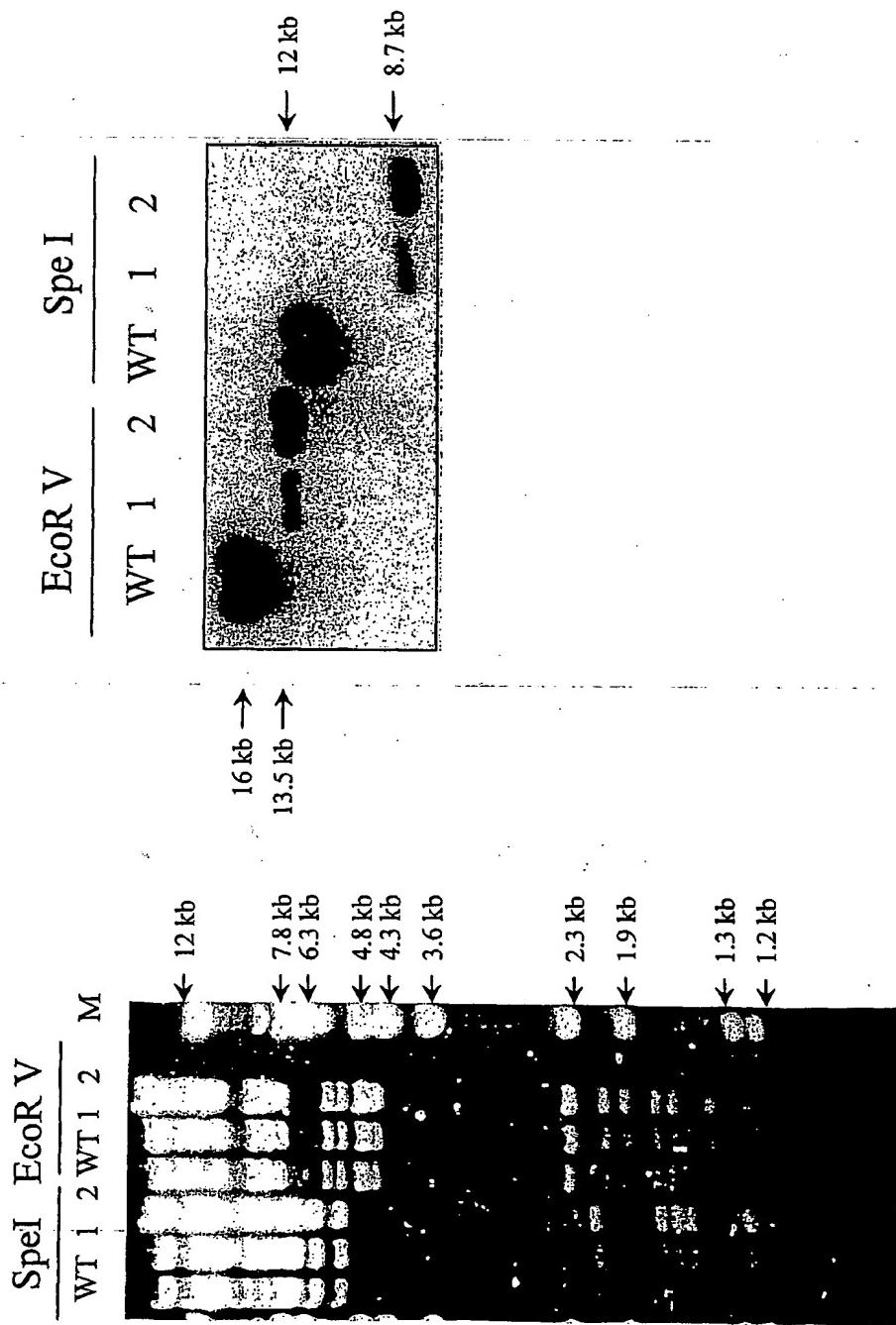


FIGURE 1E



Figures 2A and 2B

**D**

Figures 2C and 2D

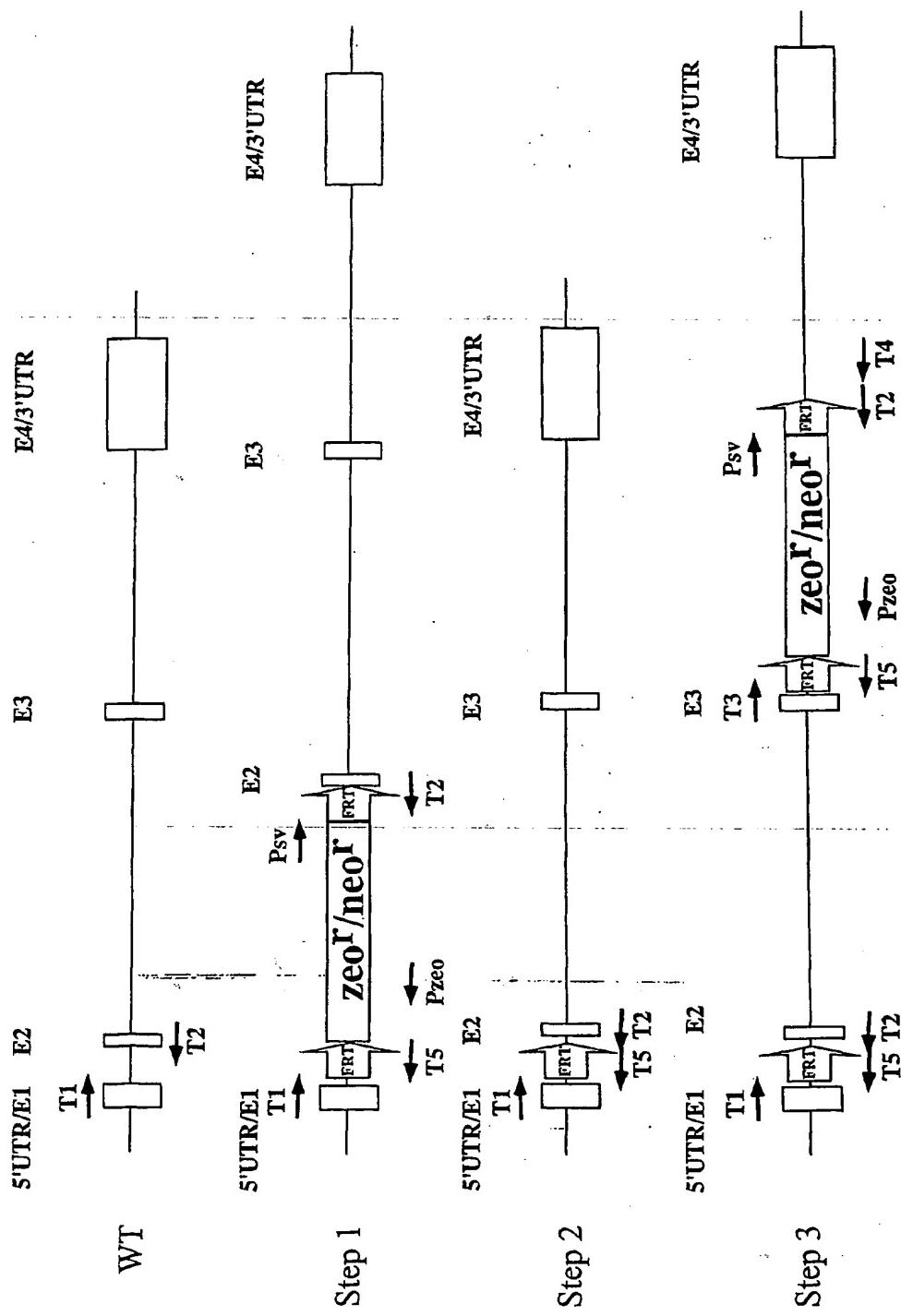


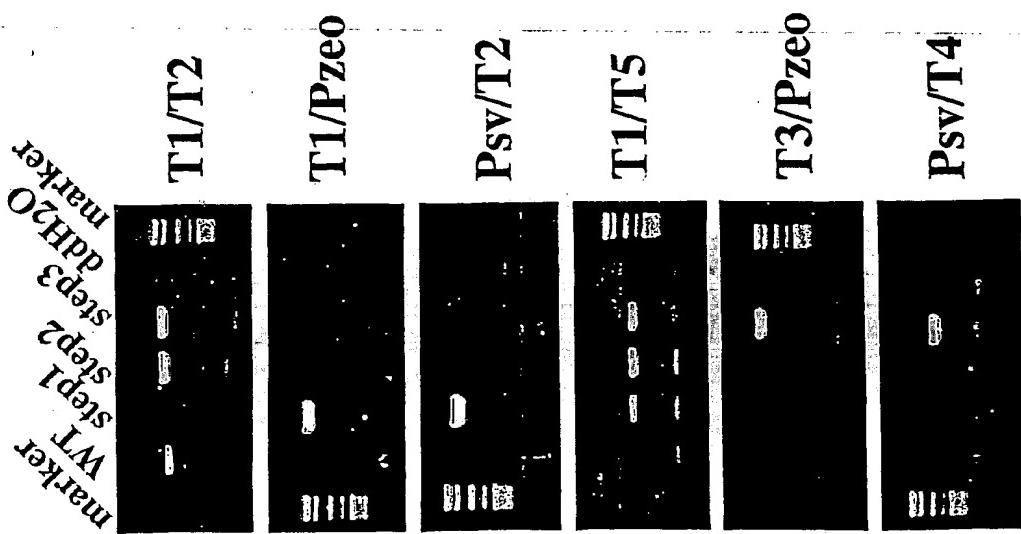
Figure 3A

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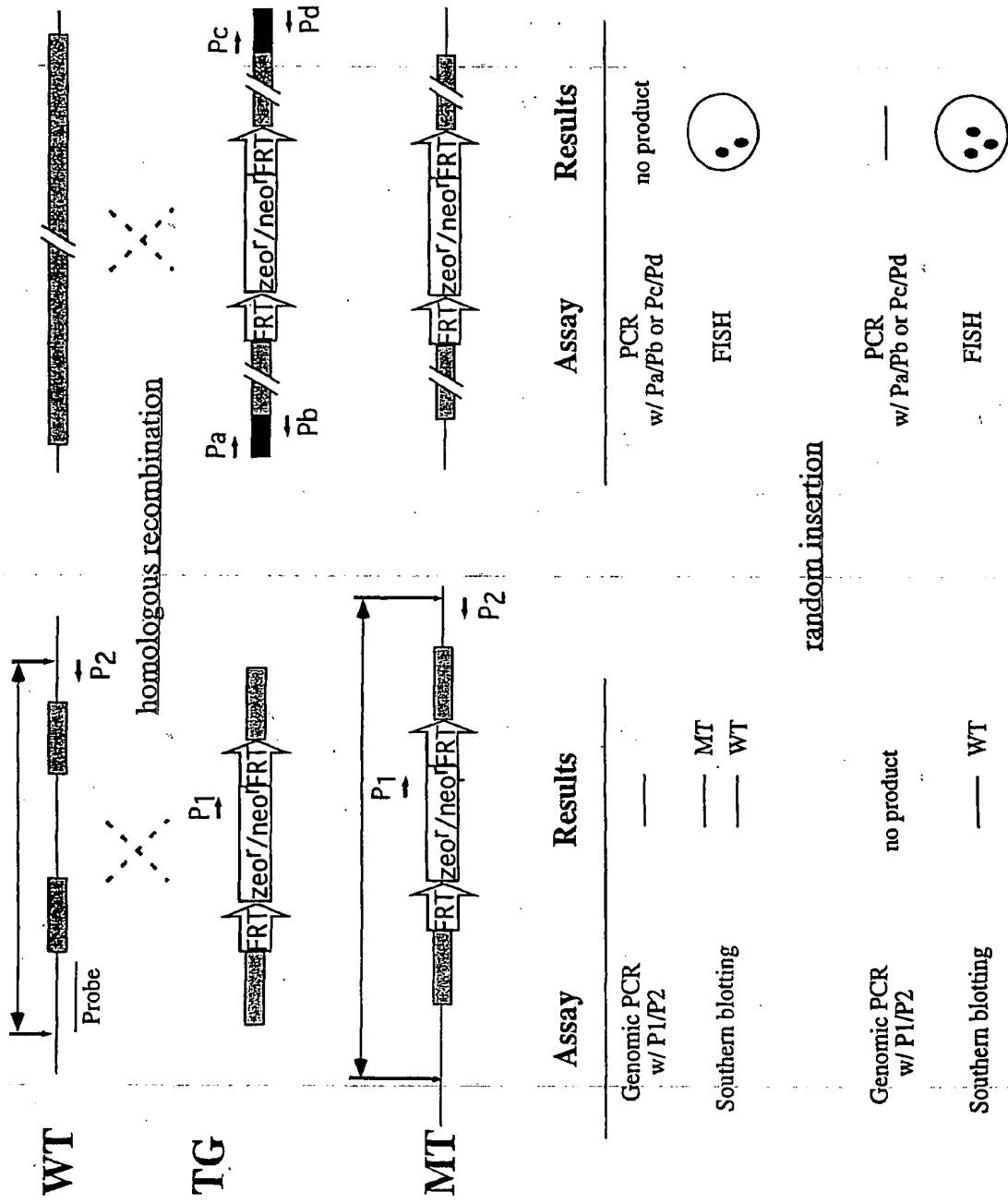


B

Figure 3B

## Figures 4A and 4B

B



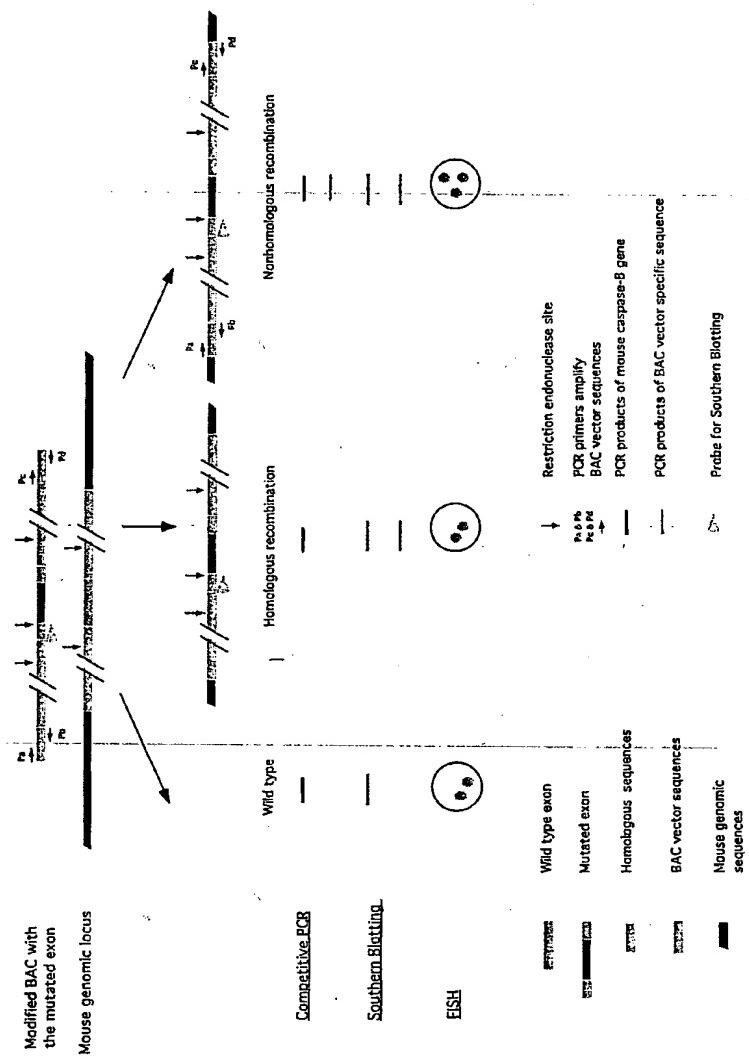
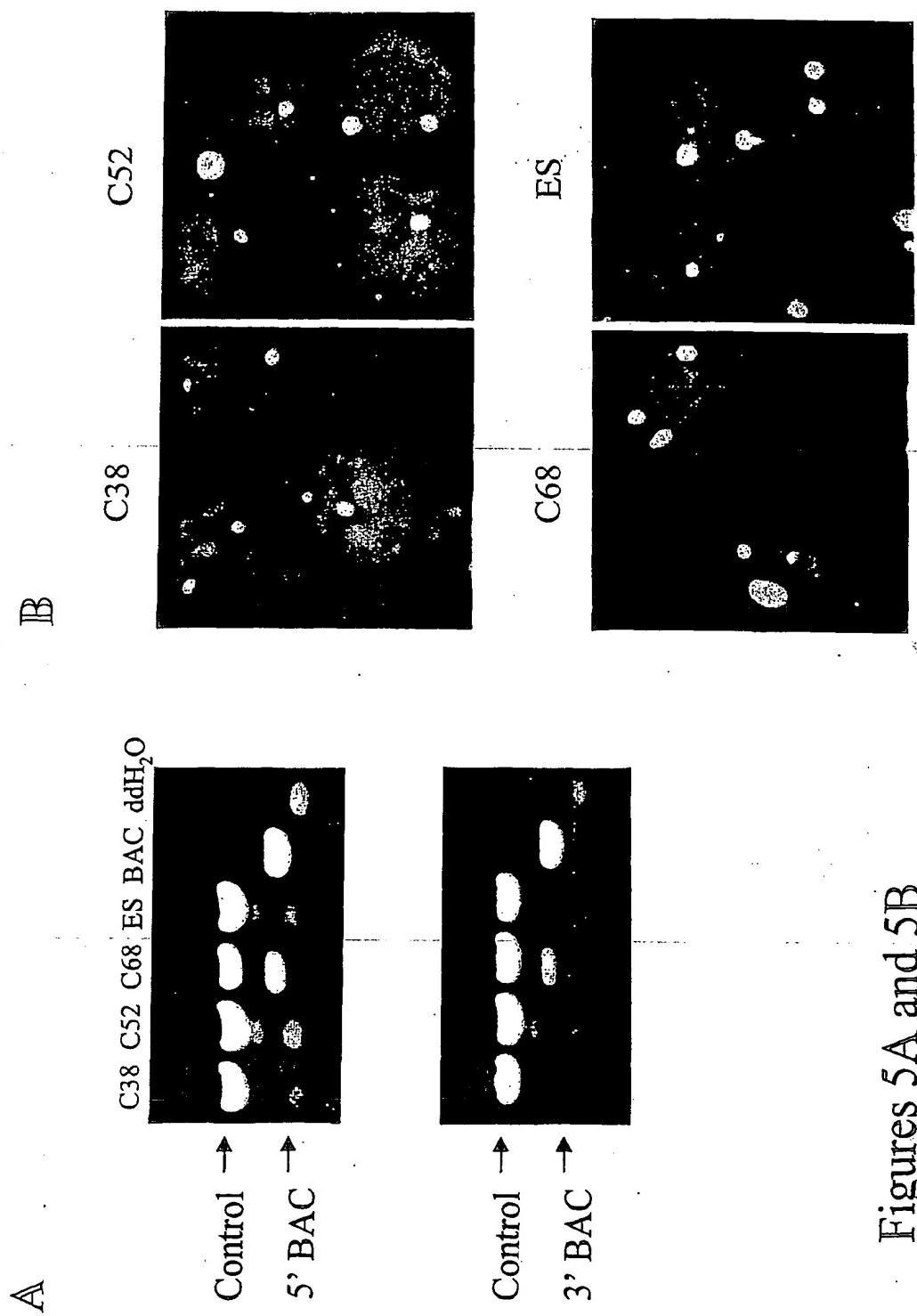
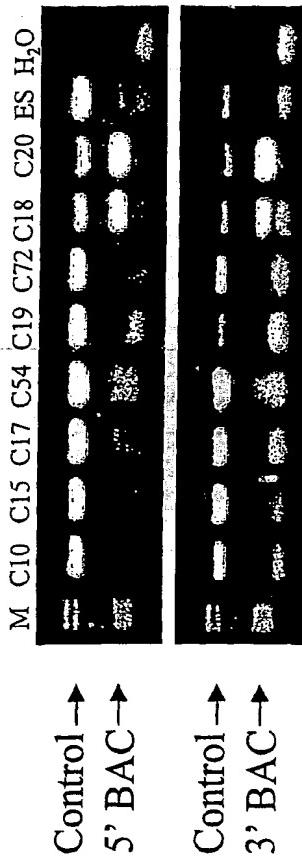
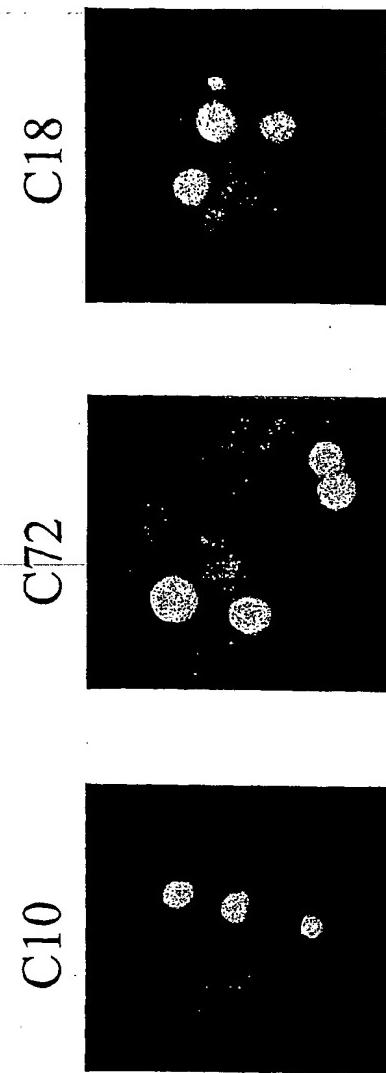


Figure 4C



Figures 5A and 5B

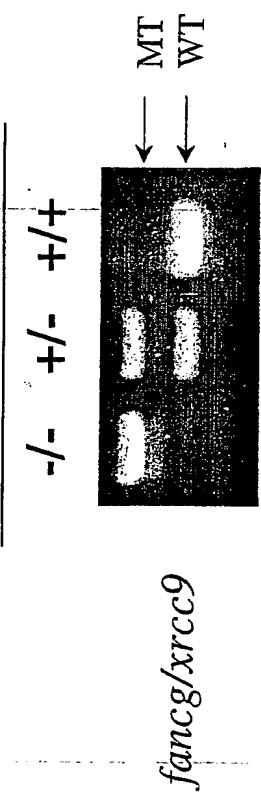
Figures 6A and 6B

**A****B**

Figures 7A and 7B

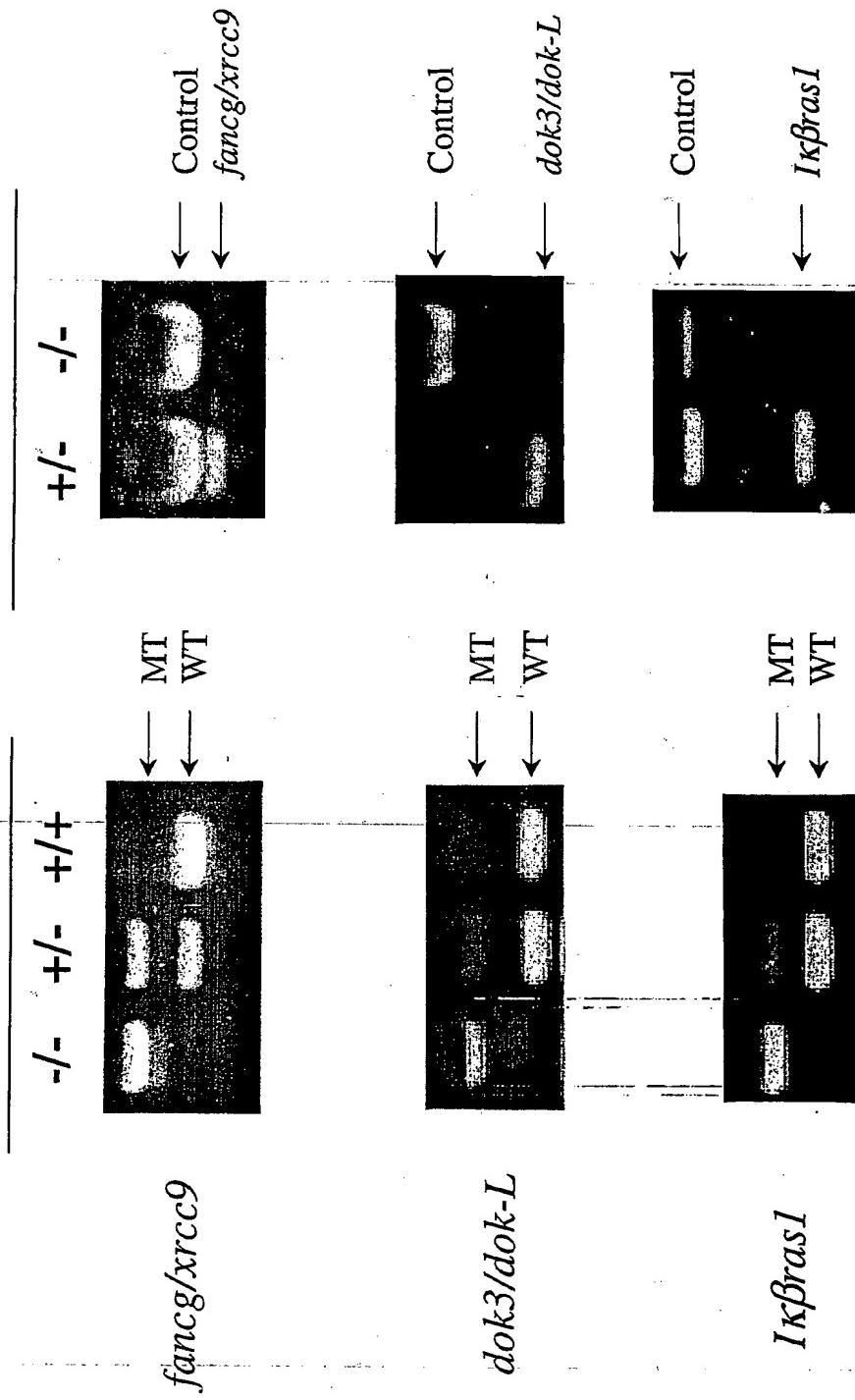
A

## PCR Genotyping

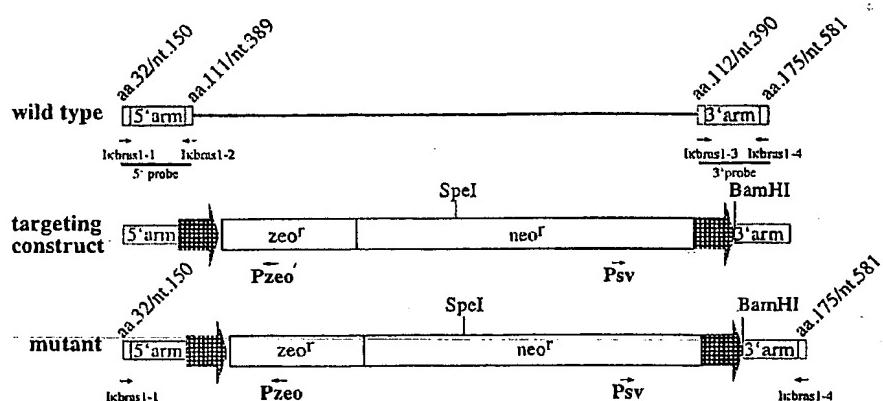
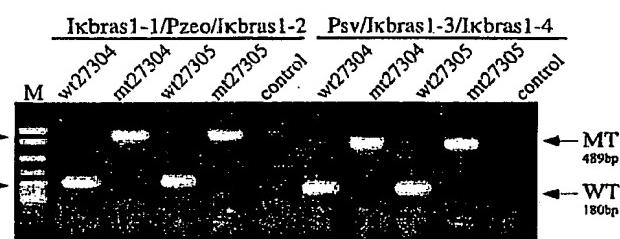
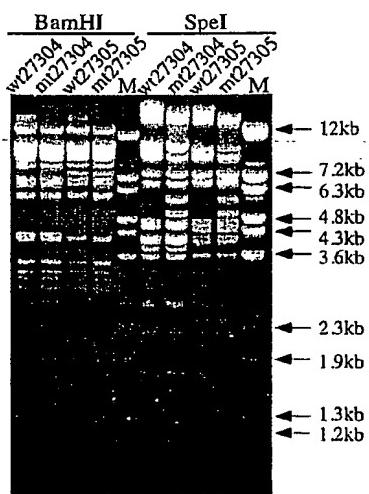
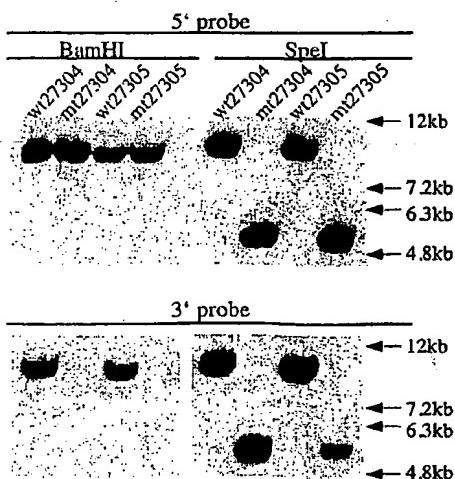


B

## RT-PCR

*fancg/xrcc9**Control**fancg/xrcc9**Control**dok3/dok-L**Control**Iκβras1*

## Figures 8A-8D

**A****B****C****D**

## Figures 9A-9D

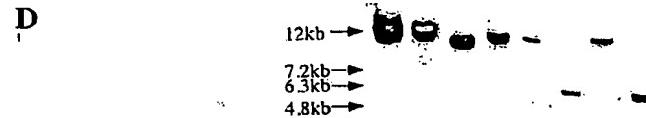
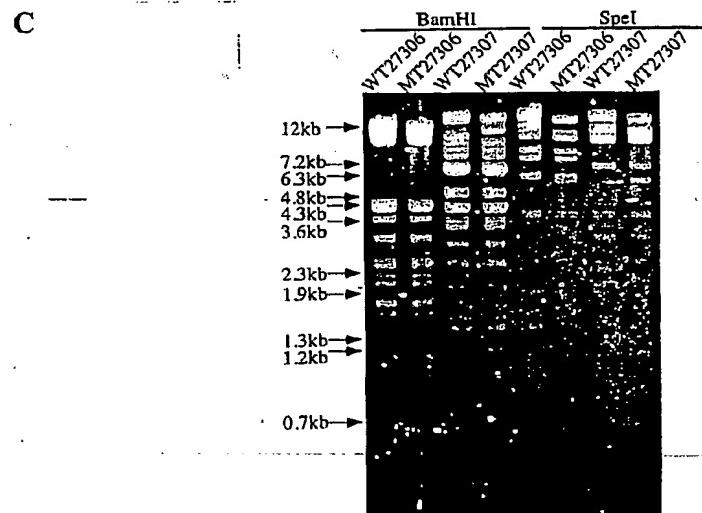
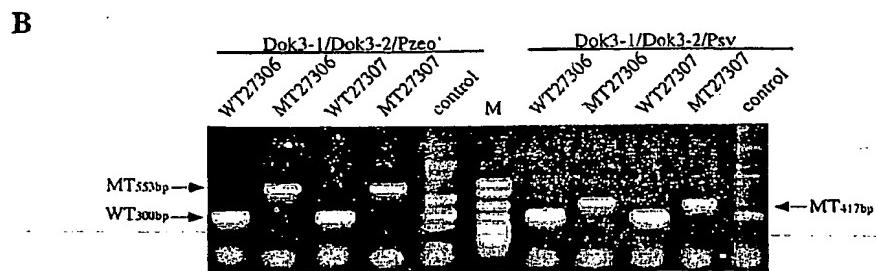
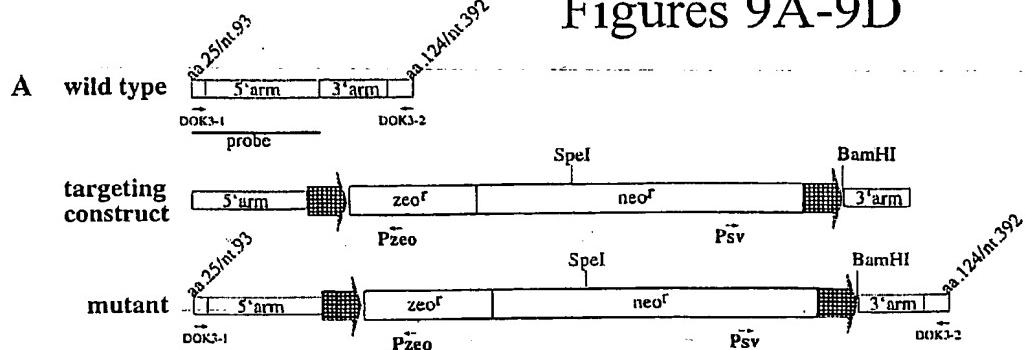
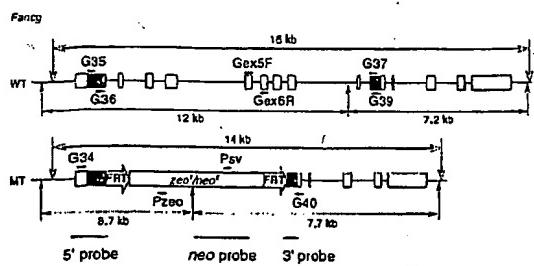


Figure 10

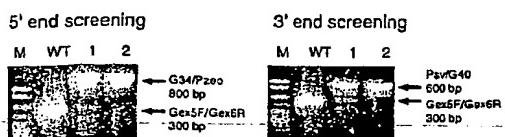
Gene/Clone	5' arm (nt)	3' arm (nt)	Deletion (nt)	Efficiency*
<i>fancg/xrcg9</i>	480	260	4900	100%
<i>Iκβras1.#1</i>	185	138	unknown	30%
<i>Iκβras1.#2</i>	185	138	unknown	25%
<i>tab2.#1</i>	213	340	869	30%
<i>tab2.#2</i>	213	340	869	50%
<i>pag.#1</i>	105	373	no	100%
<i>pag.#2</i>	105	373	no	58%
<i>pag.#3</i>	105	373	no	100%
<i>dok3/dok-L.#1</i>	188	93	no	42%
<i>dok3/dok-L.#2</i>	188	93	no	30%
<i>bruce</i>	50	50	no	100%

\*The efficiency was calculated based on nested PCR screening of 24 ampicillin and chloramphenicol double resistant colonies at the 3' integration site.

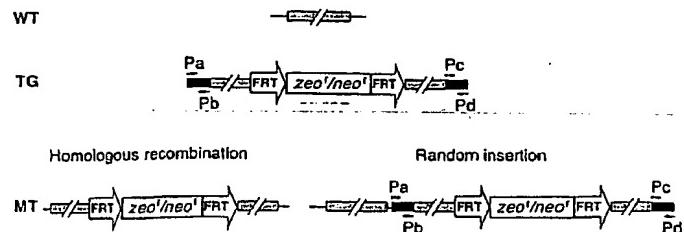
11 A



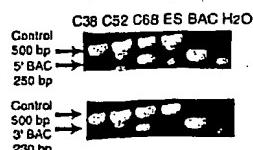
11 B



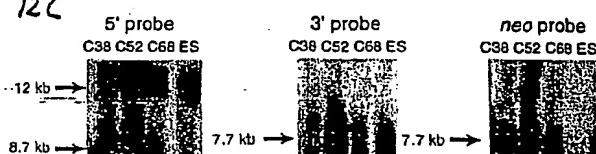
12 A



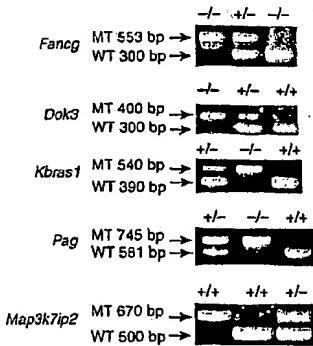
12 B



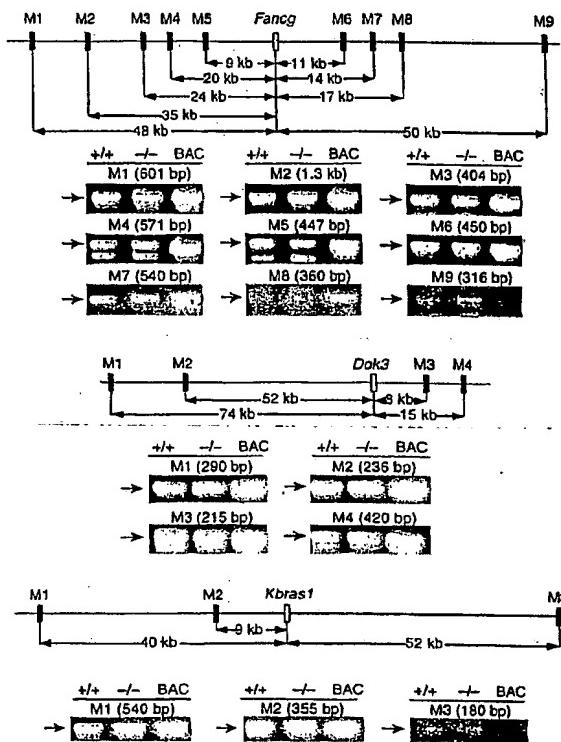
12 C



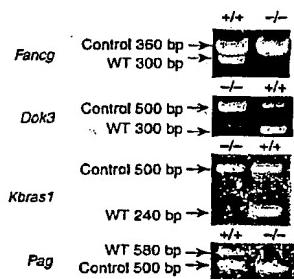
13 A



13 C



13 B



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Figure 14

Gene	PCR screening/96 colonies				FISH screening			Effective targeting efficiency <sup>c</sup>
	no signal <sup>a</sup>	5' BAC	3' BAC	5' & 3' BAC	no BAC signal <sup>b</sup>	colonies screened	2 spots	
<i>FANCG</i>	36	4	6	28	22 (37%)	4	3 (75%)	1
<i>XRCC9</i>								28%
<i>IκβRASI</i>	1	16	12	15	52 (55%)	27	6 (22%)	21
<i>CBP/PAG</i>	6	10	5	32	43 (48%)	16	7 (44%)	9
<i>DOK3</i>								12%
<i>DOK-L</i>	6	12	9	55	14 (16%)	11	5 (45%)	6
<i>TAB2</i>	16	8	16	27	29 (36%)	10	2 (20%)	8
								21%
								7%
								7%

a. A high PCR failure rate (internal control negative) was seen with *FANCG*/*XRCC9* prior to the introduction of improved protocols.

b. Percentage calculation denominator excludes PCR failures.

c. The percentage with no vector signal multiplied by the percentage with two FISH spots.

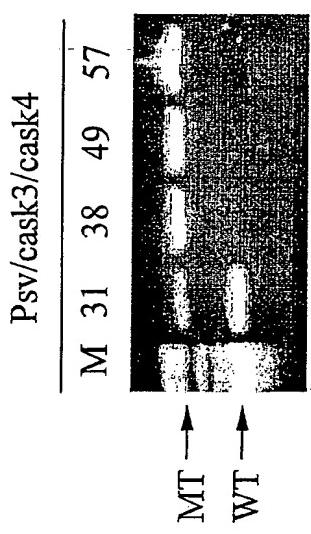


FIGURE 15

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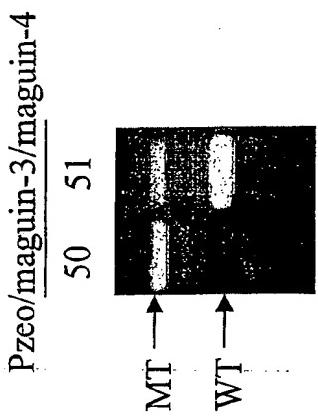
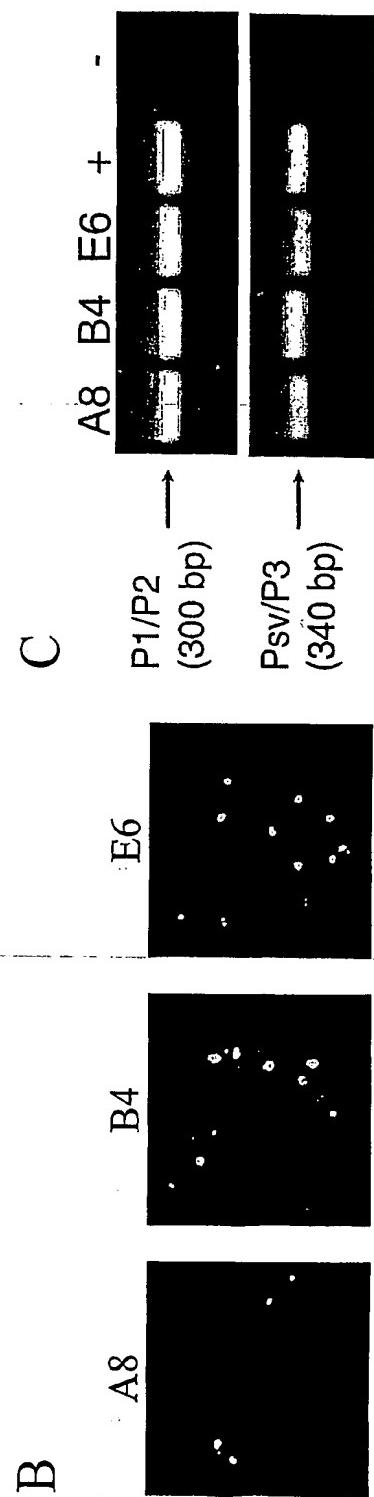
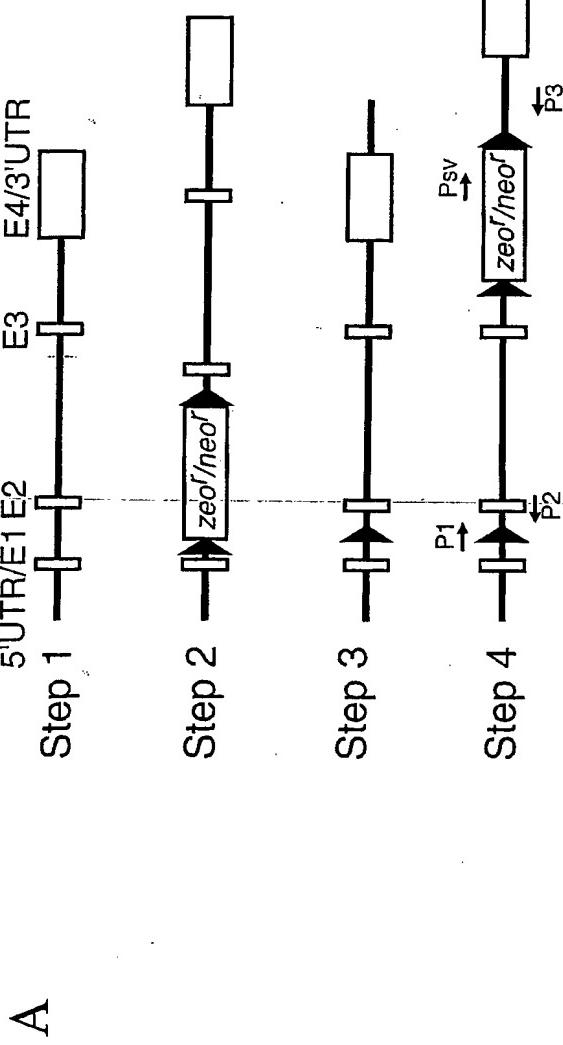


Figure 16

Figure 17



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